MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019/2020

BAC 2624 – MANAGEMENT ACCOUNTING 2

(All sections / Groups)

2nd March, 2020
2.30 p.m. – 5.30 p.m.
(3 Hours)

INSTRUCTIONS TO STUDENT:

1. This paper consists of **EIGHT (8) pages** excluding cover page with **4** Questions only.
2. Answer **ALL** questions.
3. All questions carry equal marks and the distribution of marks for each question is given.
4. Please write all your answers in the Answer Booklet provided.

QUESTION 1

Taste of Fusion produces orange juice and orange marmalade from a joint process. Second-stage processing of the marmalade creates an orange pulp by-product that can be sold for RM0.05 per litre. Expenses to distribute pulp total RM90.

In May 2019, 140,000 litres of oranges costing RM44,200 were processed in Department 1, with labour and overhead costs of RM33,800 incurred. Department 1 processing resulted in 56,000 litres of output, of which 40 percent was transferred to Department 2 to become orange juice and 60 percent was transferred to Department 3. Of the input going to Department 3, 20 percent resulted in pulp and 80 percent resulted in marmalade. Joint cost is allocated to orange juice and marmalade on the basis of approximated net realizable value at split-off.

The orange juice in Department 2 was processed at a total cost of RM9,620; the marmalade was processed at a total cost of RM6,450. The net realizable value of pulp is accounted for as a reduction in the separate processing costs in Department 3. Selling price per litre are RM5.25 and RM3.45 for orange juice and marmalade, respectively.

Required:

a) Why is cost allocation necessary in accounting? Explain.
(2 marks)

b) Calculate how many litres leaving Department 1 were sent to Department 2 and Department 3 for further processing as orange juice and marmalade.
(2 marks)

c) Calculate how many litres of Department 3 outputs as pulp and marmalade.
(2 marks)

d) Compute the net realizable value of pulp.
(3 marks)

e) Compute the total approximated net realizable value of orange juice and marmalade.
(6 marks)

f) What amount of joint cost is assigned to orange juice and marmalade?
(4 marks)

g) If 85 percent of the final output of each product was sold during May and Taste of Fusion had no beginning inventory of either product, what is the value of the ending inventory of orange juice and marmalade?
(6 marks)

[TOTAL: 25 MARKS]

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QUESTION 2

PART A

Kepong Plastic Sdn. Bhd. is a manufacturer and seller of plastic containers for household used. Raw plastic is used in the production of the plastic containers and is purchased from an external supplier. Each year 8,000 pounds of raw plastic is used; it is currently purchased in lots of 500 pounds. Its cost Kepong Plastic RM 5.00 to place the order and the carrying cost is RM 2.00 per pound per year.

The raw plastic is used evenly at the rate of 30 pound per day. However, on some days as many as 35 pounds are used. It takes Kepong Plastic Sdn. Bhd. 5 days from the time of order to the time of arrival of the order.

Required:

i. How many orders for the raw plastic does Kepong Plastic Sdn Bhd places per day? (1 mark)

ii. What is the EOQ for the raw plastic? (2 mark)

iii. What is the annual relevant total cost? (2 marks)

iv. Suppose Kepong Plastic Sdn Bhds's ordering cost was RM 5.00, but the Inventory Manager predicted it to be RM 2.50 when calculating the order quantity. What is the cost of this prediction error? (4 marks)

v. Calculate the re-order point. (2 mark)

vi. Calculate the amount of safety stock. (2 mark)

PART B

Precision Instrumentation Sdn. Bhd. (PISB) manufactures industrial precision measuring instruments. One of the product manufactured is an altimeter used by hikers and mountain climbers. PISB adopted JIT production system for its manufacturing process. The company schedules production only after an order is received, materials and parts arrive just as they are needed, the production cycle time for altimeters is less than one day, and completed units are packaged and shipped as part of the production cycle.

PISB's backflush-costing system has only three (3) accounts related to the production of the altimeters:

- Purchase of direct materials
- Completion of good finished units of product
- Sale of finished goods.

Continued...

Following is the transaction for the month of April related to the production of altimeters:

Materials and parts purchased	RM273,800
Conversion cost incurred	RM89,600
Altimeters produced	12,800 units
Altimeters sold	12,800 units

The budgeted or standard cost for one altimeter is RM21.00 for materials and parts and RM7.00 for conversion cost.

Required:

i. Prepare the journal entries for the production of altimeters for the month of April. (8 marks)

ii. Assume that the actual conversion cost incurred during April were RM90,600 instead of RM89,600 and all other facts remain the same. What is the journal entry that would be required at the end of April? (2 marks)

iii. Explain two (2) main criticisms of backflush costing system. (2 marks)

[TOTAL: 25 MARKS]

QUESTION 3

PART A

Sweety Fashions is considering the purchase of computerized clothes-designing software. The software is expected to cost RM320,000, have a useful life of five years, and have no salvage value at the end of its useful life. Assume that tax regulations permit the following depreciation patterns for this software:

Year	Percent Deductible
1	20
2	32
3	19
4	15
5	14

Continued...

The company's tax rate is 35 percent, and its cost of capital is 7 percent. The software is expected to generate the following cash savings and cash expenses:

Year	Cash Savings (RM)	Cash expenses (RM)
1	122,000	18,000
2	134,000	16,000
3	144,000	26,000
4	120,000	18,000
5	96,000	10,000

Required:

i. Calculate after-tax operating cash flows from Year 0 until Year 5.

(9 marks)

ii. Based on your answer in (i), determine the payback period and the net present value of the software.

(6 marks)

iii. What is the purpose of the discounted cash flow methods in capital budgeting? Explain.

(3 marks)

PART B

Zapin Italiano produces three-topping, 18-inch frozen pizzas and uses a standard cost system. The three pizza toppings are onions and olives. To some extent, discretion may be used to determine the actual mix of these toppings. The standard cost card for a pizza as follows:

Onions	2 grams at RM0.10 per gram
Olives	2 grams at RM0.35 per gram

During May 2019, the company produced 10,000 pizzas and used the following inputs:

Onions	8 kilograms
Olives	12 kilograms

During the month there was no deviation from standard material price.

Required:

Determine the material efficiency, mix and yield variances.

(7 marks)

[TOTAL: 25 MARKS]

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QUESTION 4

PART A

Green House Sdn. Bhd. operates a large commercial palm oil nursery in Nilai, Negeri Sembilan. It distributes the palm oil seedlings (small plants) to large palm oil plantations through-out Malaysia and Indonesia. Green House Sdn. Bhd.'s total investment is RM5,800,000 in assets. It's yearly fixed cost is RM742,000 and the variable cost per seedling is RM1.55 which includes cost of potting soil, container, labeling and labour. The current price for palm oil seedlings in the market is RM 3.80 each. Green House Sdn. Bhd. volume is currently 575,000 units

A new general manager was appointed in early 2019 and has been reviewing Green House Sdn Bhd's operations and pricing policies. He believes that the pricing of products should be based on a reasonable return on investment. The general manager wants to earn 11% return on investment on the company's assets.

Required:

i. What is the Green House Sdn. Bhd.'s target full cost? Compute also the target unit full cost.

(3 marks)

ii. Given the current cost, will Green House Sdn. Bhd. be able to achieve the target cost? What is the "cost gap"? Show your calculations.

(3 marks)

iii. What action(s) can the general manager undertake to eliminate the "cost gap"? Explain.

(3 marks)

iv. In addition to the action in (iii) above, the general manger started an aggressive advertising strategy to differentiate its products from its competitors. He spends RM57,500 on advertising cost this year and was able to reduce the variable cost to RM1.25 per seedling. What is the cost-plus selling price per seedling?

(4 marks)

PART B

Computer Labs (M) Sdn. Bhd. has two divisions, the Component Division and the Product Division. The Component Division produces a video circuit board which is used in the manufacture and assembly of a variety of electronic devices. The Component Division's cost data related to the video circuit board are as follows:

	Cost Per Unit (RM)
Direct materials	20.00
Direct labour	5.00
Variable manufacturing overhead cost	3.00
Fixed manufacturing overhead	8.00
Variable selling expenses (Incurred only for external sales)	2.00

Continued...

The Component Division can sell the video circuit board to other manufacturers. The market price for the video circuit board is RM45.00. Currently the Component Division has sufficient capacity with which to make any extra video circuit boards.

Currently all the video circuit boards produced by the Component Division is sold internally to the Product Division. The Product Division uses the video circuit board to manufacture a mini-camera. The Product Division sells this mini-camera for RM250.00 per unit. The Product Division's cost structure (excluding transfer-in cost) related to the manufacture of the min-camera is as follows:

	Cost Per Unit (RM)
Direct materials	30.00
Direct labour	10.00
Variable manufacturing overhead cost	6.00
Fixed manufacturing overhead	16.00

Required:

i. What is the maximum acceptable transfer price for the Divisions? Based on this transfer price, compute the contribution margin for the divisions and for the company as whole.

(4 marks)

ii. What is the minimum transfer price? Is the minimum transfer price acceptable to the manager of the component division? To the manager of the product division? Show computations for contribution margins of both divisions and explain your answer.

(4 marks)

iii. If the company's policy requires that all in-house transfers must be priced at full absorption cost plus 20%, what is the transfer price?

(3 marks)

iv. Explain one (1) potential limitation of a full cost transfer price.

(1 marks)

[TOTAL: 25 MARKS]

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APPENDIX

Table 1 Present Value Interest Factors for One Dollar Discounted at *k* Percent for *n* Periods: $PVIF_{k,n} = 1 / (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0076	0.0055	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	*	*	*	*

Table 2 Present Value Interest Factors for a One-Dollar Annuity Discounted at *k* Percent for *n* Periods: PVIFA = [1 - 1/(1 + k)^n] / k

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333